

HIGHER-ORDER OR CRITICAL THINKING SKILLS: DOES ACCOUNTING EDUCATION NEED REFORMS?

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Abstract

Various authors point out the repeated calls by stakeholders in the accounting profession for the development of enhanced critical skills in accounting graduates to ensure the long-term development of the profession. This paper discusses the importance of developing higher-order or critical thinking skills among accounting graduates prior to entering the job market. It identifies the two steps needed to improve accounting education, namely to recognise the need for change and to identify the specific changes needed. Critical thinking skills are needed to enable accounting graduates to cope not only with advancements in Information Technology, but also a competitive business environment in a globalised world economy.

Keywords Critical Thinking, Higher-Order Thinking Skills, Graduates

1. Introduction

Various stakeholders have voiced concerns about the skills and proficiency of accounting graduates (IFAC 2003, MIA 2003, Taylor, 2010) who have been criticized for being incompetent at the workplace (National Economic Action Council, 2004, Memiyanty et al., 2010; Tempone et al., 2012). There is now a critical need to analyse this issue, especially because of rapid changes in the business environment as a result of globalisation and liberalisation, and advancements in information and communication technology. It has demanded that accounting graduates possess technical skills such as literacy, numeracy, audit, taxation, bookkeeping, and corporate finance advisory, as well as non-technical skills such as communications, management and critical thinking skills. Changes in the accounting framework, such as in the International Financial Reporting Standards, require accounting practitioners to make inferences and sound judgement (for example, on fair-value measurements and other standards), which put greater reliance on subjectivity and critical analysis (Karr, 2009). While it is generally agreed that accounting practitioners should possess technical skills ,

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studies have argued that those skills alone will not be sufficient in today's business environment (AICPA 1999, IFAC 2003, He et al., 2013).

Research has identified non-technical skills (such as critical thinking) that accounting graduates should also possess before entering the job market. Critical thinking has been recognized as one of the skills required by employers (AICPA 1998, Tempone et al., 2012). It was needed to enhance the competency of accounting graduates in functional tasks (such as auditing, taxation and accounting), personal skills (such as solving problems, working in teams, communicating and leadership) and broad business skills (such as cultural sensitivity and ability for business research) (AICPA, 1999). Karr (2009) suggested that critical thinking was important for accounting practitioners regardless of their intellectual and educational mix, and was pertinent for them to remain competitive in the present world economy. Critical-thinking was important for accounting practitioners to be successful in public accounting firms and in today's business environment (Baril et al., 1998; Camp and Schnader, 2010).

This paper discusses the importance of higher-order or critical thinking skills (HOTS) for accounting graduates prior to entering the job market. The first section of the paper discusses the concept of critical thinking/ HOTS while the second section sets out the importance of critical thinking skills. This is followed by a discussion on how critical thinking/HOTS can be applied in the teaching and learning of accounting, and the final section highlights conclusions that can be drawn.

2. Higher-order thinking skills (HOTS)/ critical thinking

Critical thinking has many definitions (Reinstein and Bayou, 1997). Baril et al. (1998) pointed out that there was no universally accepted definition of critical thinking because of the difficulty in observing and evaluating mental processes, and the fact that "thinking" was an integral part of mental behaviour such as problem recognition, problem solving, and the exercise of judgment. Behar-Horenstein and Niu (2011) regarded critical thinking as being intellectually engaged and skilful, and having responsible thinking that facilitates good judgment. These require the application of assumptions, knowledge, competence and the ability to challenge one's own thinking. Reinstein and Bayou (1997) used the definition of critical as that given in the American Heritage Dictionary as "characterised by careful and exact evaluation and judgment". They concluded that critical thinking focused on problem identification and problem solving; it was a rational response to questions that could not be answered definitively and for which relevant information was not readily available. Its main purpose was to explore alternatives and arrive at optimal and justifiable outcomes or conclusions, thus considering the elements of understanding, evaluating and making judgment.

Baril et al. (1998) analysed the works of researchers such as Stark et al. (1988), Kurfiss (1988) and Paul (1990). Stark et al. (1988) defined HOTS as

involving the examination of issues rationally, logically, and coherently; being able to acquire, evaluate, and even produce information and knowledge; and being able to make decisions in both familiar and unfamiliar circumstances. Kurfiss (1988), on the other hand, defined HOTS as a rational response to questions that could not be answered definitively and for which all the relevant information might not be available. Paul (1990) defined HOTS as a disciplined, self-directed thinking which exemplified the perfection of thinking, appropriate to a particular mode or domain of thought. Based on these definitions, critical thinking could be concluded to be inherently related to the ability to logically and rationally organize and utilise information, even though the data set might be incomplete and the situation was new and unfamiliar. McBride et al. (2005) interpreted HOTS as embracing a question with a curious, actively inquisitive and reflective outlook.

Baril et al. (1998) also conducted a study on what accounting professionals considered to be the essential components of HOTS. They were two main categories, namely: (i) the cognitive attributes and characteristics, and (ii) the non-cognitive attributes and behaviours. The first category included the ability to recognise problems, to recognise when additional information was needed, to see the “big picture”; to “think outside the box”, and to plan ahead. One of the respondents interviewed in the study by Baril et al. (1998) explained that the ability to think critically was being able “to look at the other side of the coin”. The non-cognitive attributes and behaviours comprised traits in terms of exhibition of initiative, curiosity, confidence and the ability to communicate clearly and articulately. Taking into consideration comments and opinions of professional accountants on the descriptions of HOTS as presented in Baril et al. (1998), it could be concluded that accounting graduates need to be competent in the six categories for successful professional accountants outlined in the Bloom taxonomy. Reinstein and Bayou (1997) stressed that the Bloom’s taxonomy implied that levels of thinking were incremental, that one had to perform at the lower levels before moving up to the upper levels, and that all six different levels of competencies were necessary. They noted that, “*ideally, accountants and auditors move up the levels until they reach the top one*” (Reinstein and Bayou, 1997). The concept of higher-order thinking skills (HOTS)/ critical thinking became a major educational agenda item with the publication of the taxonomy of educational objectives by Bloom (1959). The taxonomy encompassed of six different levels of competency, namely: (i) knowledge (the ability to recall previously learned material), (ii) comprehension (the ability to grasp the material learned which included translating, summarising and interpreting), (iii) application (the ability to use material previously learned in new situations), (iv) analysis (the ability to break down into small components to better understand the structure of the problem at hand), (v) synthesis (the ability to put parts together to form new patterns or structures), and (vi) evaluation (the ability to make judgement).

In the 19th century, Oliver Wendell Holmes used the one-storey, two-storey and three-storey analogy to explain the concept of critical thinking (Reinstein and

Bayou, 1997). According to him, one-storied people were fact collectors with no aims beyond the facts collected; two-storied people could compare information, reason and generalise using the facts collected; and three-storied people could idealise, imagine and predict an event. According to Reinstein and Bayou (1997), the Illinois Renewal Institute suggested three levels of thought, known as: (i) to recall (which included to complete, count, define, describe, match, name, observe, recite, select and scan), (ii) to process (which comprised comparing, contrasting, classifying, sorting, inferring, distinguishing, analysing, synthesizing and reasoning), and (iii) to apply (among others included to evaluate, generalise, imagine, predict, speculate and forecast). However, it has been argued that Bloom taxonomy remains the most detailed and widely accepted application of critical analysis (Reinstein and Bayou, 1997). In conclusion, one-storied people could be likened to the recall level in the Illinois Renewal Institute's levels of thought and Level I of the Bloom taxonomy (i.e. knowledge). Two-storied people were similar to the process level (or Level Two) in the Illinois Renewal Institute's levels of thought, and levels II and III in the Bloom taxonomy (i.e. comprehension and application). Three-storied people were comparable to Level Three in the Illinois Renewal Institute's levels of thought, and stages IV, V and VI in the Bloom taxonomy (i.e. apply)

3. The need to incorporate HOTS into the accounting curriculum

McBride et al. (2005) pointed out the repeated calls made by various stakeholders in the accounting profession for the development of enhanced critical skills among accounting graduates to ensure the long-term development of the accounting profession. Critical thinking is recognized as one of generic skills required by employers (Tempone et al., 2012). They also identified a deficiency in critical thinking skills among accounting graduates. Baril et al. (1998) quoted Williams's suggestion that two steps were needed to improve accounting education, namely the recognition of the need for change and more importantly, the identification of the specific changes needed.

Findings of various studies conducted on the accounting education pointed out the need to incorporate HOTS into the accounting curriculum. Kimmel (1995) asserted that the common criticism on accounting education was failure to adequately develop in students the skills necessary for mastery of ambiguous, unstructured problems i.e. HOTS. In addition, there was a shift in clients' expectations, from merely mechanical tasks to "added-value" services (Reinstein and Bayou, 1997; Taylor, 2010). Clients now expected professional accountants to evaluate complex systems and information, as well as detect, predict, advice and recommend appropriate courses of action. According to them, HOTS would help professional accountants perform these tasks better.

Baril et al. (1998) argued that changes in “products” offered by the accounting profession to the public warranted that accountants possess a new set of competencies and skills, in particular, the need to think critically. Traditionally, the two main “products” or services provided by professional accountants were auditing and tax services. Over time numerous other “products” were offered to the public that entailed a new set of competencies and skills on the part of accountants. It has been argued that to be successful in the world of public accounting, individuals needed to be able to solve diverse and unstructured problems in unfamiliar settings; comprehend an unfocused set of facts; identify and anticipate problems; and find acceptable solutions (Perspectives, 1989). Similarly, Bonk and Smith (1998) stated that reform in accounting education was needed to respond to appeals by businesses and industry that institutes of higher learning produce flexible and creative employees who can look beyond the numbers. A number of researchers have suggested that the lack of skills among accounting graduates could be caused by the fact that what is being taught in universities was not matching the need of the profession (McBride et al., 2005; Camp and Schnader, 2010). This has triggered the need for reorientation of instructional approaches used in the accounting education to equip future accountants with the necessary skills for the profession (Foong, 2002; Canadian Institute of Chartered Accountants, 2003; and Malaysian Institute of Accountants, 2003). Reports and research have also suggested that deficiency in critical thinking skills among accounting graduates could be due to the failure of instructional approaches used in accounting education (Bedford Report, 1986; AICPA, 1998; Springer and Borthick, 2007; He et al., 2013). Howieson (2003) opined that the traditional instructional approach, which drew heavily on lecturing was generally not sufficient in developing the skills required for the work place. This was supported by the learning theory that lectures and textbooks were inadequate, primarily because they were not conducive to critical thinking and did not motivate students for self-development (Bedford Report, 1986). Several accounting researchers and professionals have since then suggested the use of alternative instructional approaches such as case studies, practical training and computer-assisted instructions in teaching methods (IFAC, 2003; Ling and Nawawi, 2010; Luke and Hogarth, 2011).

In summary, findings from the study highlighted the need to incorporate HOTS into the accounting curriculum to ensure institutes of higher learning were able to produce qualified professional accountants who were able to perform efficiently in the business arena.

4. Apply HOTS in teaching and learning

Reinstein and Bayou (1997) suggested three methods for applying HOTS in teaching and learning accounting: (i) the liberal (i.e. arts alternative where HOTS concepts are covered in courses such as philosophy and psychology), (ii) specific

critical thinking skills designated for the profession, given the unique tasks of accountants, and (iii) the decentralised alternative where HOTS are covered throughout the curriculum focusing on skills relevant to specific courses. Reinstein and Bayou (1997) concluded that the decentralised alternative was the most appropriate to teach HOTS in accounting and could be applied in three different forms: (i) that HOTS be taught as a separate course or as a topic within the course of study, (ii) that HOTS was introduced as a mode of teaching, and (iii) that HOTS was triggered in students in a discipline-free learning environment. These three forms varied in terms of their educational dimensions, as described in Table 1.

Table 1: Three forms of HOTS

	Separate teaching	Teaching mode	Discipline-free learning
Delivery mode	Direct	Indirect	Indirect
Flow of HOTS contents	Teacher: students	Teacher: students	Teacher: students
Method of construction	Synthetic	Analytical	Analytical
Orientation	Content orientation	Instrumental	Brainstorming
Style of assertion	Dogmatic	Sceptical/ dogmatic	Critical
Relevant faculty	Understanding	Judgement	Reasoning

Source: Reinstein and Bayou (1997)

McBride et al. (2005) proposed the used of experiential learning in teaching and learning HOTS for accounting students. They suggested four main ways of using this method of learning, namely as case-based business games; computer-based simulation; project work; and accredited work placement or industrial training.

5. The Malaysian scenario

In 1999, the Ministry of Education directed all public universities to review programmes offered in their institutions. A committee known as Halatuju Program Perakaunan (HPP) was established in 1999 to implement guidelines for the accounting education, as issued by the International Federation of Accountants (IFAC). Halatuju Program Perakaunan Intitusi Pengajian Tinggi Awam (IPTA) was finally approved by the National Higher Education Council in February 2001. The report followed guidelines provided by IFAC that became effective in 1999 (Susela and Takiah, 2005); the salient feature of the report was that public universities offering accounting programmes had to incorporate courses in business ethics and professional moral, creative thinking, communication skills

and compulsory industrial training. IFAC issued the International Education Standards (IES) in 2005 which comprised seven standards, as shown in Table 2.

Table 2: Content of IESs

IES 1	Entry Requirements to a Programme of Professional Accounting Education
IES 2	Content of Professional Education Programmes
IES 3	Professional Skills
IES 4	Professional Values, Ethics and Attitudes
IES 5	Practical Experience Requirements
IES 6	Assessment of Professional Capabilities and Competence
IES 7	Continuing Professional Development

Source: www.ifac.org

The Ministry of Higher Education in consultation with the Malaysian Institute of Accountants (MIA) established a committee to review the accounting programmes offered by public institutions of higher learning to take into consideration the implementation of IES by IFAC. The report on Halatuju 2 Accounting Programme IPTA 2006 was finalised in April 2007. The main changes were the introduction of six new courses (as reflected in Table 3) and an increase in the duration of industrial training from 12 to 24 weeks.

Table 3: Additional Courses under the H2PP 2006

Courses	Credit Hours
Business Ethics and Corporate Governance	3
Quantitative Methods	3
Organizational Behaviour	3
International Business and Globalization	3
Business Communication	3
Integrated Case Study	3
Total Credit Hours Added	18

Source: Kertas Senat FPP, 2007

6. Conclusions

The landscape at the workplace is changing rapidly. These changes warrant reforms in the education system as a whole to ensure graduates are ready to meet job expectations. Similar actions are needed for education on accounting. Reforms are necessary to accommodate advances in Information Communication Technologies (ICT) and to ensure that accounting graduates perform effectively in the globalised and competitive business environments. More importantly, reforms should develop the right attitude among accounting graduates to face

the challenges ahead. Professional accountants need to develop a paradigm of skills, one of which is how to think. This requires lifelong learning skills to ensure that they can think critically, exercise judgement and apply accounting concepts and principles to specific issues. Stakeholders in the accounting profession need to work closely to ensure that reforms in the accounting education can be implemented successfully and effectively. Further studies should be conducted to find various ways of embedding HOTS in the syllabus of institutions of higher learning in Malaysia.

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